

**IN THE CLAIMS:**

*Please cancel claims 1-17 and add claims 18-53 as follows:*

18. (New) A network attached memory device comprising:
  - a CPU;
  - a memory having at least one memory block;
  - a connection to a network; and
  - a memory management function managing said memory block in said memory, means for providing access to said memory block to a computing device attached elsewhere to said network.
19. (New) A network attached memory device according to claim 18 wherein said means for providing access provides said computing device access to said memory block by direct memory address.
20. (New) A network attached memory device according to claim 18 wherein said means for providing access provides said computing device access to said memory by memory address translation between a memory address in said computing device and a memory address in said network attached memory device.
21. (New) A network attached memory device according to claim 20 wherein said memory address comprises a DMCE Virtual Address.
22. (New) A network attached memory device according to claim 18 wherein said means for providing access comprises means for treating a memory block in said memory as an extended part of a system memory in said computing device.
23. (New) A network attached memory device according to claim 18 wherein said memory management function comprises means for providing a memory block in said memory to said computing device for access and marking said memory block as used.

24. (New) A network attached memory device according to claim 23 wherein said memory management function comprises means for providing one-to-one ownership of a memory block in said memory to said computing device.

25. (New) A network attached memory device according to claim 18 wherein said memory management function comprises means for keeping a record of used memory blocks in said memory.

26. (New) A network attached memory device according to claim 18 wherein said memory management function comprises means for keeping a record of unused memory blocks in said memory.

27. (New) A network attached memory device according to claim 24 wherein said memory management function comprises means for keeping a record of said one-to-one ownership between said computing device and said memory block.

28. (New) A network attached memory device according to claim 23 wherein said memory management function further comprises means for marking said memory block as unused when said computing device frees said memory block.

29. (New) A network attached memory device according to claim 24 wherein said memory management function provides said computing device with exclusive access to said memory block.

30. (New) A network attached memory device according to claim 18 wherein said memory management function comprises means for copying data from said memory block to said computing device when said computing device requests said data by providing a memory address of said memory block.

31. (New) A network attached memory according to claim 30 wherein said data comprises image data.
32. (New) A network attached memory device according to claim 18 wherein said memory management function further comprises means for copying data received from said computing device into a memory block in said memory corresponding to a memory address received from said computing device.
33. (New) A network attached memory device according to claim 18 wherein said memory management function further comprises means for allocating a second memory block in said memory to said computing device.
34. (New) A network attached memory device according to claim 24 wherein said memory management function further comprises means for freeing a memory block from said one-to-one correspondence with said computing device.
35. (New) A network attached memory device according to claim 18 wherein said memory management function uses substantial computing time of said CPU.
36. (New) A network attached memory device according to claim 18 wherein said CPU is primarily dedicated to said memory management function.
37. (New) A network attached memory device according to claim 18 wherein said connection to a network comprises an Ethernet connection.
38. (New) A network attached memory device according to claim 18 wherein said memory comprises a plurality of memory blocks having different sizes.
39. (New) A network attached memory device according to claim 18 wherein a size of said memory block is configurable.

40. (New) A memory service architecture comprising:

at least one network attached memory device having memory, and  
means for linking said at least one network attached memory device to a memory area network,

wherein said at least one network attached memory device provides to at least one computing device located elsewhere on said network access said memory through a network connection.

41. (New) A memory service architecture according to claim 40 wherein said means for linking comprises a network connection.

42. (New) A memory service architecture comprising:

a first network attached memory device having first memory; and  
a second network attached memory device having second memory;  
wherein said first network attached memory device and said second network attached memory device are linked into a memory area network, and said first and second network attached memory devices provide to a separate computing device access said first memory and said second memory through a network connection.

43. (New) A memory service architecture according to claim 42 further comprising a service dispatch function which dispatches memory requests from said separate computing device to said first or second network attached memory devices and responds to said separate computing devices based on responses from said first or second network attached memory devices.

44. (New) A memory service architecture according to claim 43 wherein said service dispatch function resides on said first network attached memory device.

45. (New) A memory service architecture according to claim 43 wherein said service dispatch function resides on a dedicated device separate from first and second network attached memory devices.

46. (New) A memory service architecture according to claim 43 wherein said memory requests comprise allocating memory.

47. (New) A memory service architecture according to claim 43 wherein said memory requests comprise copying data from said separate computing device to at least one of said first and said second memory.

48. (New) A memory service architecture according to claim 43 wherein said memory requests comprise copying data from said first or second memory in said memory area network to said other computing device.

49. (New) A memory service architecture according to claim 43 wherein said memory requests comprise freeing memory blocks from at least one of said first and said second network attached memory devices.

50. (New) A network attached memory device according to claim 18 further comprising a hard disk, wherein data stored in said memory block can be copied to said hard disk and data stored in said hard disk may be copied to said memory block.

51. (New) A network attached memory according to claim 50 wherein said data comprises image data.

52. (New) A network attached memory device comprising:

- a CPU;
- a memory having at least one memory block;
- a connection to a network; and

a memory management function managing said memory block in said memory, wherein said network attached memory device provides access to said memory block to a computing device attached elsewhere to said network.

53. (New) A network attached memory device according to claim 52 further comprising a hard disk, wherein data stored in said memory block can be copied to said hard disk and data stored in said hard disk may be copied to said memory block.